

Claims

1. A digital tuner comprising:

5 a splitter for splitting a received RF (radio frequency) signal into several RF signal outputs;

an IB (in-band) IF (intermediate frequency) unit for converting an IB signal of the RF signal output into an IB IF signal;

10 an OOB (out-of-band) IF unit for converting an OOB signal of the RF signal output into an OOB IF signal.

2. The digital tuner according to claim 1, further comprising a diplexer connected to a front port of the splitter, for selectively outputting a transmission signal and a reception signal.

15 3. The digital tuner according to claim 1, wherein the IB IF unit comprises at least one or more IF units.

20 4. The digital tuner according to claim 1, further comprising a demodulator for demodulating signals outputted from the IB IF unit and/or the OOB IF unit.

25 5. The digital tuner according to claim 4, wherein the demodulator is made by a semiconductor chip.

6. The digital tuner according to claim 1, wherein the OOB IF unit comprises:

30 a filter for passing a signal of a predetermined band out of an RF signal received through the splitter;

an attenuator for attenuating a level of an RF signal outputted from the filter;

35 an OOB mixer for mixing a signal received through the attenuator and an oscillation frequency signal received from an outside into an OOB IF signal;

an OOB IF filter for passing only a signal of a desired

band out of the OOB IF signal outputted from the OOB mixer; and

5 an OOB IF amplifier for amplifying an OOB IF signal outputted from the OOB IF filter into an OOB IF signal of a desired level.

10 7. The digital tuner according to claim 1, wherein the OOB IF unit comprises an OOB mixer for mixing an oscillation frequency signal received from an outside and an inputted signal.

15 8. The digital tuner according to claim 1, wherein the OOB IF unit comprises an OOB mixer for mixing an OOB signal and an oscillation frequency signal, and a demodulator for outputting an oscillation frequency of the OOB mixer is built in the digital tuner.

20 9. The digital tuner according to claim 1, wherein the IB IF unit comprises:

a first IF unit for up-converting a signal; and
a second IF unit for down-converting the signal from the first IF unit.

25 10. The digital tuner according to claim 1, wherein the OOB IF unit processes a data signal and the IB IF unit processes audio/video signals.

30 11. The digital tuner according to claim 1, wherein a signal inputted to the splitter is transmitted by a cable and/or a sky wave and/or a satellite wave.

12. A digital tuner comprising:

a splitter for splitting a signal;

35 a filter for passing only a signal of a predetermined band or below out of an RF signal received through the splitter;

an attenuator for attenuating a level of an RF signal outputted from the filter;

an OOB mixer for mixing a signal received through the attenuator and an oscillation frequency signal received from an outside into an OOB IF signal;

an OOB IF filter for passing only a signal of a desired band out of the OOB IF signal outputted from the OOB mixer; and

an OOB IF amplifier for amplifying an OOB IF signal outputted from the OOB IF filter into an OOB IF signal of a desired level.

13. The digital tuner according to claim 12, further comprising a demodulator for demodulating a signal outputted through the OOB IF amplifier in the digital tuner and outputting the demodulated signal to a set.

14. The digital tuner according to claim 12, further comprising an IB IF unit connected to one of branch lines of the splitter, for converting an IB signal into an IF signal.

15. The digital tuner according to claim 14, wherein the IB IF unit comprises at least one or more IF units.

25 16. A digital tuner comprising:

a filter for passing only a signal of a predetermined band or below out of an RF signal;

an attenuator for attenuating a level of an RF signal outputted from the filter;

an OOB mixer for mixing a signal received through the attenuator and an oscillation frequency signal received from an outside into an OOB IF signal;

an OOB IF filter for passing only a signal of a desired band out of the OOB IF signal outputted from the OOB mixer; and

an OOB IF amplifier for amplifying an OOB IF signal

outputted from the OOB IF filter into an OOB IF signal of a desired level and outputting the amplified OOB IF signal through an OOB output line thereof.

5 17. A digital tuner comprising:

a splitter for splitting a received signal into several line signals;

10 an OOB IF unit connected to at least one of output lines of the splitter, for converting an OOB signal into an IF signal.

15 18. The digital tuner according to claim 17, further comprising a demodulator for demodulating an IF signal outputted from the OOB IF unit.

20 19. The digital tuner according to claim 17, further comprising an IB IF unit in which at least one or more IF units are formed, the IB IF unit being connected to one of output lines of the splitter and converting an IB signal into an IF signal.